

OUTPATIENT PULMONOLOGY: LUNG ULTRASOUND EXAMINATION

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Abstract

Epidemiological situation associated with coronavirus disease (COVID-19) widespread in the world, changes the approaches to health-care provision. The field of respiratory medicine, especially in an outpatient setting, also adapts in terms of organization and technology. The optimization of diagnostics during the initial or follow-up examination of patients by means of focused lung ultrasound (FLUS), will help to expand the pulmonologist's diagnostic and therapeutic capabilities at current conditions.

The aim of the study was to evaluate diagnostic features of FLUS in combination with classical methods such as chest percussion and auscultation in an outpatient setting in patients with COVID-19 at the convalescence stage, based on the results of retrospective data analysis.

Materials and methods. The analysis included data from 14 patients (8 men and 6 women, mean age $(49,6 \pm 12,8)$ years) with typical set of clinical, laboratory and instrumental manifestations of COVID-19, who were examined by a pulmonologist at the convalescence stage after cessation of the self-isolation period. FLUS was performed routinely in suspected or clinically evident signs of pulmonary opacity.

Results. In 10 (71.4 %) patients characteristic auscultatory signs associated with pulmonary consolidation were found. In majority of cases (12 – 85.7%) focal and/or diffuse interstitial syndrome (IS) was revealed by FLUS, accompanied by typical auscultatory pattern (bronchial or weakened vesicular breathing sound, bronchophonia, crepitations) and/or percussion abnormalities (dullness over the lung). The results of retrospective analysis of FLUS data in COVID-19 patients suggested a persistent focal and/or diffuse IS up to 63 days of illness on average. The obtained data analysis revealed statistically significant ($p = 0.03$), weak, negative ($\text{Tau} = -0.41$) relationship between the disease duration and auscultatory and percussion data, in the presence of ultrasound signs of lung opacity.

Conclusions. Auscultation and percussion are valuable diagnostic markers, but their value for detection of pulmonary consolidation decreases after 30 days of COVID-19. FLUS qualitatively complements the diagnostic effectiveness at outpatient pulmonologist' examination when it is necessary to evaluate IS presence in lung parenchyma. The number of subjects and the heterogeneity of the group impose certain limitations on interpreting of the results. Further extensive research is needed to implement this method into routine clinical practice.

Key words: COVID-19, focused lung ultrasound.

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